


MIN, MAX, and COUNT are straightforward functions that calculate the minimum, maximum, and number of entries in a list. These functions (and several others) have variations that end in the letter A—MINA, MAXA, and COUNTA. Use COUNTA, for example, when you want to work with not just numeric values in a list, but all arguments, including text and those that evaluate to a logical result such as TRUE or FALSE.

DATABASE FUNCTIONS

 Excel includes a dozen functions you can incorporate into formulas to analyze information in a table (called a *list* before Excel 2007). These functions work with the same techniques as advanced filters—for each function, you define a criteria range, specify the location of a table, and select a column on which to perform calculations.

To work with any of these functions, click the Insert Function button to the right of the Name box. In the Insert Function dialog box, select Database from the Select a Category list. Choose any entry from the list on the right to see a brief description in the same dialog box, or click the Help button for step-by-step instructions on how to use the function and enter parameters.

Note that all 12 of these functions begin with the letter D (for *database*). All the D-functions take three arguments:

- **database**—The first argument is the range that contains your table; it must include the header row that contains column labels.
- **field**—The second argument is the label over the column you want to summarize.
- **criteria**—The final argument is the range that contains a condition you specify.

Use these functions to analyze whether values in a table meet specific criteria. For example, in a table that contains product information organized by category, you can count all the rows in which the category is “Cat” and the price is greater than \$20.

TESTING AND DEBUGGING FORMULAS

The more complex the formula, the more likely you are to need time to get it working properly. Excel includes a variety of tools you can use to troubleshoot errors in formulas and in worksheets. This section discusses the most useful options.

HOW FORMULA AUTOCORRECT WORKS

Under most circumstances, Excel won’t let you enter a formula using incorrect syntax. If you make one of many common mistakes in formula syntax or punctuation, Excel offers to correct the mistake for you, and generally the correction is appropriate. This feature, called *Formula AutoCorrect*, can detect and repair any of the following errors: